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NOVICE TEACHERS' LIMINALITY AND SELF-EFFICACY THROUGH TECHNOLOGY DURING COVID-19

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ABSTRACT

The COVID-19 pandemic created a social-educational problem in understanding how novice teachers developed self-efficacy through technology amidst distance learning. Exploring the social-educational problem of novice teachers' liminality and construction of self-efficacy during COVID-19-related school closures is an emerging issue that justifies further research because a gap in research and understanding currently exists regarding this topic. This qualitative study explored how novice teachers developed self-efficacy through technology amidst the liminal first-time experiences of distance learning. To explore this topic, three concepts were used: the theory of self-efficacy through mastery experiences, the theory of liminality, and the theory of innovation. The research questions addressed how novice teachers developed self-efficacy through technology amidst the liminal first-time experiences of distance learning. To collect data for this study, 10 novice teachers in a Pacific Northwestern state were recruited through professional networking to participate in a semi structured interview. Data was analyzed by conducting three rounds of coding and drawing conclusions concerning the research questions. The results of this study affirmed that novice teachers developed self-efficacy via technology in innovative ways amidst COVID-19 school closures. They confirmed that examining the liminal experiences of novice teachers can provide insight into educational improvements for preservice teachers. This study could positively impact social change by better preparing new teachers to use technology innovatively to serve students in the classroom and via digital instruction.

KEYWORDS: Novice Teachers, Self-Efficacy, COVID-19, Liminality

1. INTRODUCTION

In January 2020, Washington State confirmed the first COVID-19 case and the first national casualty by February (Kennedy, 2020). U.S. schools began closing to slow the spread of the virus, impacting over 55.1 million students in K–12 education. This unprecedented global pandemic changed teachers and students by replacing classroom-based learning with digital lessons. COVID-19-related school closures were incomparable, and research addressing the systemic changes and impacts on education is still being conducted. Exploring the social-educational problem of novice teachers' liminality and construction of self-efficacy during COVID-19-related school closures is an emerging issue that justifies further research. The purpose of this basic qualitative study was to explore how novice teachers developed self-efficacy through technology amidst the liminal first-time experiences of distance learning.

2. LITERATURE REVIEW

Background

Little relevant literature connects the theory of liminality with the social-educational problem of understanding how novice teachers developed self-efficacy through technology amidst distance learning. The COVID-19 pandemic resulted in massive adjustments, including an overnight pivot to emergency remote instruction. Before the school closures caused by COVID-19, 92% of U.S. educators had no previous online teaching experience (Bjork Gundmundsdottir & Hathaway, 2020). While many districts offer online tools, such as Microsoft Teams, Google Classrooms, Moodle, and Edmodo, little training is mandatory. Further, the emergency closures became a call to action for teachers to adjust their mindset about teaching with technology (Miller et al., 2020). As districts and state legislatures determine how to move forward with COVID-19's new realities, it is essential to explore how novice teachers developed self-efficacy amidst the liminal first-time experiences of distance learning.

Self-Efficacy Through Mastery Experiences

Self-efficacy, or an individual's perception of their ability to complete a task, is built over time through experiences with progressive mastery of new skills (Bandura, 1977). For novice teachers, their experiences using technology innovatively during COVID-19-related school closures may have influenced how they developed self-efficacy. Research suggests that self-efficacy beliefs are "malleable" at the start of one's career, and exploring how the unprecedented global pandemic might have impacted the development of novice teachers' self-efficacy is necessary for providing support and training in years to come (see Bandura, 1977; George et al., 2018).

During the emergency closures of COVID-19, educators faced growth opportunities by integrating technology. In qualitative, semistructured interviews with 10 Swedish compulsory school educators, Nordlöf et al. (2019) examined the teachers'

perceptions and attitudes toward teaching technology. The key findings were that teachers with technology interests and extensive training had higher self-efficacy. Further, without specific certification, it takes up to 8 years for teachers to develop the same confidence and self-efficacy. This study was relevant to the topic of novice teachers' use of technology to develop self-efficacy during COVID-19 school closures because not all teachers elect to focus on technology; however, the demand for proficiency in this area is growing, leading to negative attitudes and low self-efficacy for novice teachers with little previous training in technology education.

While building professional efficacy, solving problems related to the occupation can contribute to higher confidence. In a qualitative case study, Khalid and Husnin (2019) conducted semistructured, individual interviews with three teachers with 3 years of experience or less to explore how novice teachers overcame obstacles and what resources they used to solve problems. Their findings revealed obstacles in self-esteem and school culture. At the same time, significant support systems were identified as veteran teachers, family members, and technology resources. This study also provided relevant insight into novice teachers' self-efficacy and liminality with technology during school closures because it examines their ingenuity, problem-solving, and the need for continued professional development. Their study aligns with the current study because it deals with the problems faced by novice teachers during the development of their careers.

In traditional first-year experiences, novice teachers receive mentorship and support from veteran staff in their buildings. Thomas et al. (2019) surveyed 446 primary education graduates about their networks of support, relationships with colleagues, and self-efficacy, finding that most beginning teachers receive emotional, social, and professional support from an average of six colleagues each week and that having these relationships typically indicated moderate to high levels of self-efficacy. Their study was relevant to the current study focused on understanding how novice teachers developed self-efficacy during COVID-19 closures because new teachers are often held to the same standards as more experienced teachers and often rely on experienced teachers' guidance and support to build self-efficacy, which is a skill-based component in performance evaluations.

The Liminal Experience

Liminality is a concept often used to analyze anthropological cases and phenomena. Hughes and McCartney (2019) applied grounded theory in a qualitative pilot study. They conducted focus groups, interviews, and surveys to identify the unique experiences of nine first-year elementary teachers as related to their self-efficacy. Key findings revealed that the realities of teaching were very different from the teachers' expectations of teaching, and the teachers struggled with feeling disconnected and in survival mode. Hughes and McCartney's research is relevant because the liminal experiences of these teachers' first year in the profession and their self-assessments of self-efficacy can be compared to those who completed a first year during the COVID-19 school closures.

This study applied liminality to education to understand novice teachers' unique situations and shared experiences during COVID-19 closures. Ackesjo et al. (2019) defined the liminal phase of novice teachers as new professionals moving from the social group of "students" to "teachers" (p. 894). The researchers also noted how "rare" investigations address the "betwixt and between" status of novice educators (Ackesjo et al., 2019). The shared focus on first-year teachers and the information embedded in both studies established guidelines for the current study.

Innovation and Technology

Before the pandemic, many research studies cited innovation as creating a new educational technology component. However, the drastic shift to emergency distance learning spurred authentic educational innovations. One exploratory study on a Belizean innovation during the pandemic included teachers, Belize Ministry of Education members, families, and radio station executives (Kirshner, 2020). While providing an online instruction platform established a sense of normalcy during the crisis, teachers found "power in their shared dialogue" while creating radio lessons broadcast across the country (Kirshner, 2020, p. 95). The study's key findings included the teachers' increased intentionality in using descriptive language to help radio listeners "see" materials, an improved sense of teacher agency during the crisis, and an improved sense of community because neighborhoods were working together with children to build a shared vision for student success.

The digital transition and the usual challenges of the first-year teaching experience generated stressors for novice teachers. Arnett-Hartwick and Cannon (2019) examined the challenges encountered by novice and veteran teachers in technology education by conducting a qualitative study with 179 instructors across Illinois. Their findings showed low job satisfaction for novice teachers in response to numerous challenges and discrepancies between job expectations and the realities of digital teaching. This study was relevant to the current study because of the shared focus on the same category of teachers and because it illuminates critical issues facing novice teachers who rely on technology to perform their job, including preservice preparation with technological software, knowledge of procedural policies, and the lack of funding for proper 1:1 device use.

3. PURPOSE

The purpose of this basic qualitative study was to explore how novice teachers developed self-efficacy through technology during the liminal first-time experiences of distance learning.

4. RESEARCH QUESTIONS

Central Research Question: How did novice teachers develop self-efficacy through technology amidst the liminal first-time experiences of distance learning?

- RQ1: How do novice teachers describe the factors that helped them to develop self-efficacy in using technology innovatively during the COVID-19 pandemic period?
- RQ2: How did novice teachers' liminal first-year experiences amid COVID-19 closures contribute to

the development of self-efficacy by using existing technology innovatively?

- RQ3: How did novice teachers perceive the development of their self-efficacy through liminality in their transition between in person classrooms and distance learning during the COVID-19 pandemic?

5. MATERIALS AND METHODS

Participants for this basic qualitative study were novice teachers who completed their first year of teaching in 2019–2020 during the initial COVID-19 school closures, beginning in March 2020, in a state in the Pacific Northwest. We used purposive sampling because all participants were from the same state within the Pacific Northwest.

Three rounds of coding were done by hand, as suggested by Saldaña (2016). We used in vivo coding for the initial analysis of the interview transcriptions, which helped create a baseline understanding of novice teachers' first-year experiences. After establishing a preliminary understanding of each participant's experiences, we used pattern coding to assign interpretation of the meaning of specific nouns and phrases, as Rubin and Rubin (2012) suggested. Categories and themes emerged from the data.

6. RESULTS

The Central Research Question was answered in the responses from 10 participants, which indicated that participants felt there was an advantage to being first-year teachers. Some participants attributed their development of self-efficacy to the fact that expectations were low, vague, or nonexistent during the initial COVID-19 school closures. Another commonality was that participants were novice professionals and did not have a regimented routine that had to be transformed from an in-person to an online structure. Furthermore, most participants shared a general willingness and comfort in applying new technology tools because of their generational exposure to evolving technology. An unexpected result of how first-year teachers developed self-efficacy through technology was noted when some participants imparted how they assisted their more experienced teaching colleagues with new technology tools and resources. They were inclined to try anything and face challenges with an open mindset.

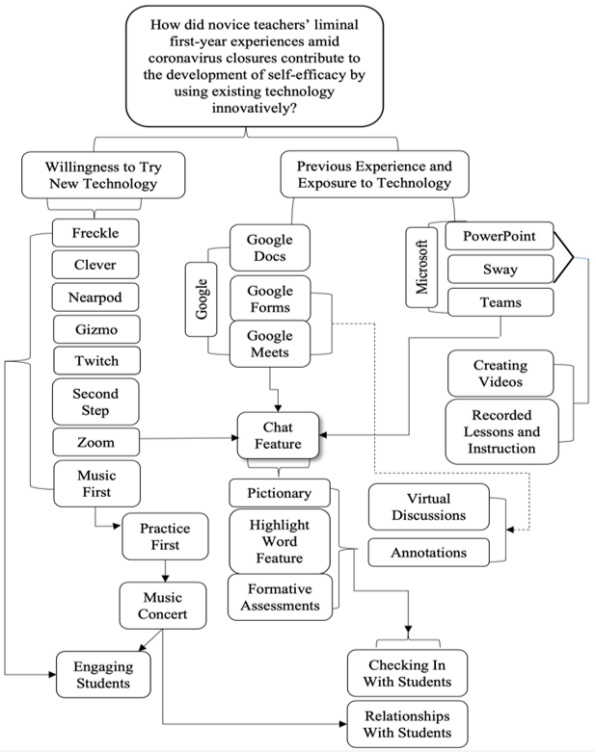
A repeated concept that came up for innovation was the use of chat functions in online meetings. Some participants used chat and forms for innovative social-emotional connections. This result was consistent across grade levels, subject areas, and technology.

Participant 4 noted the "powerful" application of chat in Microsoft Teams because, before the pandemic, there was no use for such a tool in their classroom. Moreover, this participant further developed this innovation by attempting to make the chat in Microsoft Teams mimic Twitch's live stream, a videogame discussion thread platform. Another idea from the interview with the same participant was that the likeness to Twitch felt relevant and innovative because it is "one of the most popular forms of entertainment." Many students are "literate" in online videogame streams.

7. DISCUSSION

The results of the current study confirm that novice teachers applied educational innovation across content areas and grade levels during the initial COVID-19 school closures. Participants noted hosting online meetings with students through Google Meets, Microsoft Teams, and Zoom. Further, many participants used Zoom calls, Teams calls, and Google Meets to stay connected to their students, deliver enrichment content, and reinforce building community while in distance learning. Using teacher instructional time to connect with students during distance learning was innovative because it applied existing technology and frameworks in new ways. The participants' responses showed that the innovative technology used during COVID-19 school closures varied. YouTube was also an innovative resource because participants used it to explain how to access other software and teach students how to become more technologically literate. The findings of this study confirm other research, indicating that COVID-19 school closures stimulated teacher innovations by using tools like YouTube to facilitate distance learning (Bushweller, 2020).

Novice teachers used innovative, stand-alone technologies for content-specific outcomes. Second Step's social-emotional learning curriculum was described as a resource for checking in with students' emotional well-being during the initial closures. It transferred its formatting to a digital piece, thus empowering model thinking and problem-solving for difficult times. Another tool used innovatively was Kleki Paint. Although Kleki intended to guide artists' creative development and experimentation, participants used it in their classes to reinforce learning and shared accountability.



Research Question #2 With Themes From In Vivo Coding

FlipGrid, a video-based student response platform, was applied by multiple participants in the study. Participants using FlipGrid asked students to respond verbally to reading passages and then respond to peers. Other participants used FlipGrid to engage students in peer-to-peer conversations, such as book talks and topic-specific opinion sharing. While FlipGrid is intended to share video submissions, the program was used innovatively to elicit curriculum-based student responses to mimic regular student discourse that would have happened more naturally in a brick-and-mortar setting.

Some other innovative technologies included Nearpod, Microsoft PowerPoint, and Microsoft Sway. Nearpod is an online classroom tool that allows teachers to create custom lessons, interactive activities, and game-like assessments. Multiple participants shared that using Nearpod to facilitate collaborative activities with students helped build community and generate virtual discussions. Microsoft PowerPoint was also an innovative resource because participants used the program to digitize the curriculum, stream lessons, and augment visual communication among students and families. Microsoft Sway was also used to disseminate information, including the video lessons created by teachers. The innovative technology approaches confirm research findings that teachers developed digital content to provide instruction during COVID-19 (Dubreil, 2020).

8. LIMITATIONS

One limitation of this study was that all participants were novice teachers from a single state in the Pacific Northwest. Another limitation was the type of voluntary participants who responded to the call for interviews. Seeking participants statewide via known contacts and social media also limited the number of potential participants.

9. RECOMMENDATIONS

One recommendation was adding more technology courses to teacher-candidate programs. Most participants highlighted the lack of technology courses in their teacher preparation programs. Specifically, no courses taught preservice teachers about the Microsoft Office suite and how to use the available programs for instructional delivery.

Another recommendation was for state colleges to partner more intentionally with local school districts by offering training on learning management software. Participants in preservice teaching programs would benefit greatly and bolster their self-efficacy with advanced access and exposure to educational technology. The recommendation to work purposefully with preservice programs aligns with the expectation that teacher candidates are prepared for employment after graduation and could potentially prepare them for jobs as in-person or virtual educators. By pairing preservice teachers with local districts, deliberate connections could cultivate new teacher competency while building further self-efficacy opportunities.

Future research is recommended to explore the influence of digital education on novice teachers' self-efficacy. Specifically, a deeper understanding of teacher-generated innovations in the classroom and hybrid or online classroom models could be insightful as the field of education continues to change with the demands of the digital era.

10. CONCLUSIONS

The COVID-19 pandemic led to significant changes for teachers and students, including pivoting from in-person instruction to digital distance learning. Examining the social-educational problem of novice teachers' liminality and construction of self-efficacy during COVID-19-related school closures offered meaningful and relevant insight into the personal experiences of professionals and students (Chang; 2018).

This study explored perceptions of novice teachers who developed self-efficacy by innovatively using technology amid the initial COVID-19-related school closures. Bandura's (1977) theory of self-efficacy, combined with van Gennep's (1910) theory of liminality and modernized by Turner (1969), constructed the conceptual framework. Rogers' (2003) theory of innovation informed how COVID-19 influenced these components. Ten novice teachers were interviewed for this study, and their stories described how they used technology innovatively to develop self-efficacy during COVID-19 school closures. Understanding how novice teachers built their self-efficacy through experiences with technology could inform preservice teaching programs and influence further research specific to novice teachers' experiences while in a liminal phase moving from "student" to "teacher."

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